

Patent claims

1. A salient-pole machine comprising at least one field coil
(18), which extends in an axial direction of the salient-
5 pole machine and is arranged on a rotor body (12) beneath
a pole shoe (14),
characterized in that
the field coil (18) is forced against the pole shoe (14)
by means of at least one spring (24), which is arranged
10 between the field coil (18) and the rotor body (12), and
an axial cooling channel (34) is created by the gap
produced by the spring (24) between the field coil (18)
and the rotor body (12).
- 15 2. The salient-pole machine as claimed in claim 1,
characterized in that
the spring (24) is an in particular bent leaf spring.
3. The salient-pole machine comprising at least one field
20 coil (18), which extends in an axial direction of the
salient-pole machine and is arranged on a rotor body (12)
beneath a pole shoe (14),
characterized in that
the field coil (18) is forced against the pole shoe (14)
25 by means of at least one spring (24), which is arranged
between the field coil (18) and the rotor body (12) and is
in the form of a leaf spring.
4. The salient-pole machine as claimed in claim 2 or 3,
30 characterized in that
the spring (24) has at least one essentially U-shaped
section (26; 28), and the field coil (18) is forced
against the associated pole shoe (14) by one of the two
limbs of this essentially U-shaped section (26; 28).

5. The salient-pole machine as claimed in one of claims 1 to 4,
characterized in that
the spring (24) has two essentially U-shaped sections (26;
28) which partially overlap one another and together form
essentially an O shape, which is open at one point (30).
6. The salient-pole machine as claimed in claim 5,
characterized in that
two field coils (18) are forced against in each case one
associated pole shoe (14) by means of the spring (24), and
the opening (30) in the O shape is arranged such that it
points towards a coil support (22) arranged between the
two field coils (18).
7. The salient-pole machine as claimed in claim 5 or 6,
characterized in that
the spring (24) is fixed to the rotor body (12) using at
least one fixing means (32) on that side of the O shape
which is opposite the opening (30) in the O shape.
8. The salient-pole machine as claimed in one of claims 1 to 7,
characterized in that
the spring (24) has a spring stiffness of between
approximately 1 and 4 N/mm, in particular between
approximately 2 and 3 N/mm.
9. The salient-pole machine as claimed in one of claims 1 to 8,
characterized in that
the spring (24) is formed such that, in the stressed
state, its bearing point on the associated field coil (18)
or an insulating element (20) arranged there is at a
slight distance from the axis of gravity of the field coil

(18), in particular at a distance of between 2 and 5 mm,
most preferably at a distance of approximately 3.5 mm.

10. The salient-pole machine as claimed in one of claims 1 to 9,

characterized in that

5 at least one cooling channel (36) is formed in the at least one field coil (18), which cooling channel (36) points essentially radially and by means of which cooling channel a fluid-conducting connection is produced between the mentioned axial cooling channel (34) and the outside of the pole shoe (14).